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著者	Hudson Mark J.
journal or publication title	日本人の起源：学際的展望
volume	.011-B
page range	267-279
year	1999-03-31
URL	http://doi.org/10.15055/00003394

Japanese and Austronesian: An Archeological Perspective on the Proposed Linguistic Links

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Although it continues to generate controversy amongst linguists, the hypothesis of a genetic relationship between Japanese and Austronesian has a long history and must be seen as one of the main theories relating to the question of Japanese linguistic origins. An attempt is made in this paper to investigate the archeology of the proposed linguistic relationship. The paper concludes that there is no evidence that a substantial number of Austronesian speakers reached Japan in prehistory and that the theory of a genetic relationship between Japanese and Austronesian is not compatible with the archeological record. The idea that Japanese and Austronesian may be related at the level of a more ancient macro-family such as Benedict's Austro-Tai would appear to be more compatible with the archeology but major problems still remain with respect to the origins and dispersals of the Southern Mongoloids and their linguistic correlations in late Pleistocene/early Holocene times.

The theory of a genetic relationship between Japanese and Austronesian has a long history stretching back to early works by Shinmura (1911), Polivanov (1924), Labberton (1924, 1925), Whymant (1926), Matsumoto (1928), and others. It must be stressed that the relationship is by no means proven—in fact it remains an extremely controversial theory amongst linguists. At the same time, however, linguists continue to publish work in support of the link (eg., Benedict 1990; Sakiyama 1996, this volume; see also Kumar 1996) and for this reason the theory merits serious attention from related fields in the study of Japanese ethnogenesis.

This paper provides an archeological perspective on the question of Japanese—Austronesian links. Does the archeological record support or contradict the theory of a genetic relationship between Japanese and Austronesian? The basic approach used here to relate the linguistic and archeological records has been discussed at length elsewhere (see *eg.*, Bellwood 1993, 1994; Hudson 1994, 1995; Renfrew 1987, 1989, 1992). It relies on the assumption that language shifts have cultural causes and therefore cultural consequences which should be visible in the archeological record. Following Renfrew (1992), I espouse a *minimalist* view of language dispersals wherein clear cultural and/or ecological causes are needed to support the associated social transformations.

Linguistic Research

It may be appropriate to begin with a few words about the two language groups discussed in this paper. Austronesian is a well-attested language family with a relatively long history of detailed research (Pawley and Ross 1993; Tryon 1995). Blust (1977) divided Austronesian into four highest-order sub-groups: Atayalic, Tsouic and Paiwanic (spoken on Taiwan) and Malayo-Polynesian (spoken outside Taiwan). While debate continues over the further classification of Austronesian (see Tryon 1995), the basic division into Taiwanese and non-Taiwanese sub-groups appears to be accepted by the majority of specialists. The presence of this division implies a Taiwanese origin for the Austronesian family: "Proto-Austronesian, the ancestral language from which all other Austronesian languages descended, is considered by most scholars to have been spoken on the island of Taiwan something in the order of 5000 years ago" (Tryon 1995: 20). Earlier roots on the southern Chinese mainland thus seem highly probable. There have been various attempts to link Austronesian with other, neighboring language families including Austroasiatic, Tai-Kadai and Sino-Tibetan. No final conclusions have been reached in this regard but there seems to be a growing consensus that Austronesian must be related to at least one of these other families (see Diffloth 1994; Higham 1996; Reid 1994a, 1994b; Sagart 1994).

The other language considered here is Japanese. Japanese and the Ryukyuan languages of the Okinawan Islands are clearly derived from a common ancestor (Proto-Japanese) which is thought to have been spoken about 2000 years ago (Chamberlain 1895; Grootaers 1983; Hattori 1961, 1976). The genetic affiliations of Proto-Japanese are much debated. However, the shallow time-depth proposed for Proto-Japanese suggests that it may have been a relative newcomer in the Japanese Islands and the specific time-scale of about 2000 BP implies it may have spread with agricultural colonization during the Yayoi period (*ca.* 400 BC - AD 300) (Hudson 1994, 1995).

No attempt will be made in this paper to provide a detailed review of the linguistic theories linking Japanese and Austronesian. An important point to stress is that most recent work on this question has been conducted within the context of Japanese as a 'mixed language'. In other words, few linguists see Japanese as purely an Austronesian language; most have proposed that Japanese is composed of both Austronesian and other (most commonly Altaic) elements. This approach goes back to early work by the Soviet linguist E.D. Polivanov (1924) and has continued in the writings of Murayama (1976), Chew (1976), Kawamoto (1987, 1993), Sakiyama (1990, 1996) and Maher (1996). An important exception to the 'mixed language' theories is recent work by Paul Benedict (1990) who proposes that Austronesian and Japanese-Ryukyuan share a common ancestor ('Austro-Japanese') as part of his Austro-Tai macrofamily.

While comment on the linguistic aspects of these theories is beyond my expertise, it should be noted that there is no consensus amongst linguists as to the validity of the proposed relationships between Austronesian and Japanese. To take one recent example, Vovin (1994) is critical of the work of Benedict and Kawamoto, arguing that they both "often use unreliable Japanese reconstructions, or tend to compare Proto-Austronesian with Old Japanese, rather than with Proto-Japanese" (Vovin 1994: 369). Another area of great debate is the whole status of so-called 'mixed languages' with many linguists denying the existence of such languages at least prior to the spread of European maritime powers.

There have been surprisingly few attempts by linguists to link the spread of Austronesian speakers to the Japanese Islands with the archeological record. In fact, I have been unable to find any detailed model in the linguistic literature which attempts to account for the expansion of Austronesian to Japan in historical terms. This absence is in some contrast to the archeological models proposed by Miller (1980) for the spread of Altaic and by Ôno (1990, 1994) for the arrival of Tamil speakers into Japan.¹ A number of linguists have proposed that there were several waves of Austronesian speakers who reached Japan. Kawamoto (1993) and Sakiyama (1996) both posit three migratory stages. Such schemes are based on the linguistic evidence for proposed cognates between Japanese and various historical levels of Austronesian (Proto-Austronesian, Proto-Malayo-Polynesian, Proto-Polynesian, etc). Both Kawamoto and Sakiyama argue for an initial spread of Austronesian speakers to Japan in the latter half of the Jômon period, Kawamoto (1993: 10) at about 4000 BC, Sakiyama (1996: 349) between

¹ The fact that both Miller's and Ôno's models can be easily criticized on archeological grounds (Hudson 1992, 1994: 236-237) is not the point: the important thing is to have such models available for inter-disciplinary debate.

about 2000 and 1000 BC. Sakiyama (1996: 349-50) proposes this first Austronesian group migrated north from northern New Guinea, but absolutely no archaeological evidence exists for such a migration. Sakiyama himself appears to accept the link between Lapita pottery and Austronesian speakers in Near Oceania, but this argues *against* a connection with Japan since the distribution of Lapita ware extends no further north than the Bismarck Archipelago (cf. Spriggs 1995: 113). Although both Sakiyama and Kawamoto link the spread of Austronesian with the introduction of rice agriculture into Japan, neither is able to suggest an actual route for the movement of this cultural complex or to explain the context and ultimate causes behind their other migration phases. Since there is little non-linguistic evidence even for one Austronesian migration to Japan, the idea of several such migrations is extremely difficult to reconcile with the archaeological record.

Notwithstanding the cover of his book which is adorned with illustrations of Jōmon and Yayoi artifacts, Benedict (1990) is also unable to propose any concrete scenario for the spread of his 'Austro-Japanese' to the Japanese Islands. Benedict (1990: 156-157) argues that the homeland of the speakers of Proto-Japanese was located on the Asian mainland, most likely to the north of the Proto-Austronesian homeland and thus possibly in the Yangzi Basin. He suggests a date of about 5000 BC for the break up of his Austro-Tai core. On the basis of a number of his proposed cognates, Benedict (1990: 154-155) links his Proto-Japanese culture with rice agriculture and metallurgy.² If rice farming had spread to Japan soon after it originated in China, then I believe we would have to take Benedict's work very seriously. In reality, however, rice agriculture did not begin in Japan until the second half of the first millennium BC and Benedict makes no suggestions as to what might have happened to his Proto-Japanese speakers in the meantime. Although the *ultimate* origins of Japanese rice cultivation are clearly in southern China, rice farming spread to the Islands from the Korean Peninsula rather than directly from the Chinese coast. Again, the almost total lack of archaeological evidence for contact between the Japanese Islands and the areas inhabited by Austronesian speakers clearly contradicts the linguistic hypothesis of a relationship between the two.

Ethnological approaches and the 'Southern Hypothesis'

Linguists who have proposed that Japanese and the Austronesian languages are closely related have thus been slow to suggest how that relationship may be reflected in the archaeological record. In my opinion this reflects the ultimate in-

² Vovin (1994: 385-386) is critical of two of Benedict's reconstructed forms here.

compatibility of the linguistic and archeological records in this respect. On the other hand, of course, it is perfectly natural that linguists should be reluctant to tread outside their field of expertise and I believe that ultimately the onus is on the archeologist to grapple with this aspect of the problem. In the following section I will use my knowledge of the archeology to look for possible scenarios to explain the spread of Austronesian speakers to Japan. Before that, however, I want briefly to consider the ethnological literature on the southern elements of Japanese culture, *i.e.* what is known in Japanese as the *nanpô-setsu* or 'southern hypothesis'.

As discussed in a detailed review by Pauly (1980), a number of elements of Japanese culture are believed to have originated in the 'south', *i.e.* south China, Southeast Asia, and/or the Pacific. These elements include myths and customs, architectural styles, and cultivated plants and other foods and drinks. This is not the place to discuss these topics in detail. The question that concerns us here is whether these elements provide any sort of support to the linguistic hypothesis of a relationship between Japanese and Austronesian.

One characteristic of the ethnological literature on the 'southern hypothesis' is the use of culture—complex theories derived from the German and Austrian anthropology of the 1930s. Vienna-trained ethnologist Oka Masao (1898-1982) was primarily responsible for bringing this approach back to Japan and it is his work that exemplifies the theory with respect to Japanese origins. Put simply, the basis of the approach is the assumption that cultural elements tend to spread in a unified fashion in associated 'complexes' of traits. Oka proposed that five such 'ethnic culture complexes' had reached prehistoric Japan (Ôbayashi 1991: 4-5). Oka assigned linguistic identities to each of these complexes but this represented little more than speculation based on the presumed area of origin of each complex.

This type of culture—complex approach is still visible in the work of senior Japanese anthropologists such as Ôbayashi Taryô and Sasaki Kômei. A fundamental criticism, which can be made on both theoretical and empirical grounds, is that there is no reason why cultural traits should necessarily always move together. In many cases they may do so because they are spread as part of a process of human migration, but the culture—complex approach has tended to ignore the causal factors behind cultural diffusion. Instead, the apparent association of two or more cultural traits has been used as a framework on which to peg other traits whose history is often less well known. The result has been a series of hypotheses which can almost always be disproved from the archeological record. There may well be certain elements of Japanese culture which are derived from the south, specifically from Austronesian-speaking areas. Based on the archeo-

logical evidence to be discussed next, however, there is presently no evidence that these traits arrived in Japan as part of a 'package' of people, language and culture. Their spread through borrowing, though admittedly in contexts as yet unknown, remains the most parsimonious hypothesis.

Archeology and the Austronesian – Japanese Relationship

The past two decades have seen a massive increase in archeological data from both Japan and the Pacific. Using this data, is it possible to suggest a likely scenario whereby Austronesian speakers spread to the Japanese Islands in pre-history? The time frame under consideration is from about 3000 BC, when Proto-Austronesian is thought to have been spoken on Taiwan, to about AD 700 when historical records become available in Japan.³ Archeologically, therefore, in Japan we are dealing with the Middle, Late and Final Jōmon phases and the Yayoi and Kofun periods.

The first and most obvious possibility that needs to be looked at is an expansion of Austronesian speakers to the north as well as the south as part of the original break-up of Proto-Austronesian. Theoretically there is no reason why the Austronesians should not have moved north up the Chinese coast and/or the Ryukyus as well as south to the Philippines. That they did not do so, however, is confirmed by the absence from the Japanese Islands of any of the characteristic elements of early Austronesian culture: rice, pigs, and red-slipped pottery. As noted already, rice farming finally spread to Japan at the end of the Jōmon period about 500 BC. The beginning of agriculture in the Ryukyu Islands is still poorly understood but it seems likely it was introduced from mainland Japan rather than directly from China or Taiwan. On present evidence rice is not present in the Ryukyus until about the 12th century AD (Kishimoto 1991). If Austronesian-speaking rice farmers had gradually spread north from the Yangzi Basin up around the Yellow Sea and down into the Korean Peninsula then a link between Austronesian and Yayoi rice would be a possibility. Such a model, however, would need to account for the presumed displacement of Sino-Tibetan languages in north China and to somehow also link Korean with Austronesian.

Another possibility is an Austronesian input from Micronesia up the Izu-Ogasawara chain. The high islands of western Micronesia appear to have been

³ Historical documents mention numerous foreigners who crossed to Japan in the 8th century AD. Most of these were from the Korean Peninsula but Chinese and even Persians were also included. There is no historical evidence, however, for any large immigration of Southeast Asian or Pacific peoples into Japan.

settled, probably from island Southeast Asia, by as early as 1000 or 1500 BC whereas colonists with Lapita type pottery only reached eastern Micronesia about a millennium later (Anderson 1994; Intô 1995). The idea of a cultural input from Southeast Asia via the Izu and Ogasawara Islands has been proposed by Esaka (1986) who suggested that *yorii'tomon* pottery of the Kanto Initial Jômon may have derived from the Hoabinhian culture of Vietnam. However, Esaka himself noted that there is no actual evidence for this proposal and certainly no new data has come to light in the meantime. A considerable amount of salvage archeology was conducted in the Izu Islands in the 1980s, I myself participating in excavations on several islands. Apart from some stone axes of uncertain origin, however, no evidence has been found for cultural links with Micronesia. The Izu Islands fall squarely into the Jômon world (Hudson 1988; Oda 1990). Only one prehistoric site is known in the Ogasawaras, the Ishino site on Kita Iojima (Kita Iwo Jima) which has produced a single radiocarbon date of 1980 ± 80 bp on shell from the surface of the site (TMBE 1992: 38). The site has lithics and plain pottery but no metal. Whether the people who left this site originated in Japan, the Marianas or the Ryukyus is unclear. While both the Micronesians and the Jômon people undoubtedly possessed the technology to sail into each other's worlds, for whatever reason they do not appear to have done so—at least on any appreciable scale.

A completely different way of looking at the Austronesian-Japanese problem is to use the suggestion made by Brace et al. (1991) and Katayama (1990) that Oceanic populations *originated* in Jômon Japan. As far as I am aware, little has been made of this proposal by linguists so far. Presumably it would mean that an ancestral form of Austronesian was spoken in Japan by the early Jômon period. According to the map published by Brace et al. (1991: 263), the people of this 'Jômon-Pacific cluster' then moved south to Taiwan and the Philippines between 8000 and 5000 years ago. If the Austronesian elements in Japanese were thus part of a Jômon sub-stratum then this model would present a possible explanation for the relationship. There are, however, a number of problems with this model. Firstly, it has been criticized by other biological anthropologists working on the same data (eg., Hanihara et al 1993; Pietrusewsky 1994). Secondly, there is no archeological evidence for a population movement from Japan to Taiwan around 8000 BP. Although precise material culture parallels between Taiwan and mainland China are also somewhat elusive, at least in the latter case there is a clear cause for the proposed population expansion—agricultural colonization. The absence of any such causal factor in the proposed expansion from Jômon Japan constitutes a third objection to the Brace/Katayama theory.

A more likely explanation for the observed biological similarities between the

Jōmon-Ainu and Oceanic populations would seem to be a shared ancestry with other Southern Mongoloid groups in the Sunda region. The theory that the Jōmon people had their origins in the Sunda region is now widely accepted by biological anthropologists but there is as yet no consensus as to *when* that population arrived in the Japanese Islands. The basic Jōmon anatomical morphology was present by the beginning of the period and changed little thereafter. The lack of human skeletal material from Paleolithic Japan makes it impossible to determine the further antiquity of this morphology but there is no reason to assume a population incursion at the Paleolithic/Jōmon transition. The Jōmon people may thus have been derived from an *in situ* Paleolithic population of the Japanese Islands, theoretically even from a local *Homo erectus* group. Even if one accepts an Upper Paleolithic replacement by 'anatomically modern humans', however, we are still dealing with a considerable time depth for any Southern Mongoloid ancestral population.

Since languages, like people, must have roots it seems likely that Austronesian is ultimately related to one or more of the other language families of southern Asia. Few if any linguists have argued that Japanese is a sub-group of Austronesian; instead they see the languages as sharing a common origin (Benedict's 'Austro-Japanese') or else as the strata of a mixed language. Either way, the presence of Austronesian (or an ancestral form of Austronesian) in Jōmon Japan is the easiest way to account for links with Japanese/Ryukyuan. Such an 'Austronesian Jōmon' scenario, however, needs to take account of at least three problems:

(1) *Time depth*: since, as we have seen, there is no archeological evidence to support an incursion into Japan by speakers of Proto-Austronesian or other derived languages within that family, we need to look back before about 5000 BP. Benedict (1990: 156) suggests a date of "5,000 BC, give or take a millennium or so" for the split of his Japanese/Ryukyuan group from the Austro-Tai core, but again there is no archeological evidence at this stage to support a population movement to Japan. Archeologically the most likely scenario is that the Jōmon languages were derived from the languages of the Upper Paleolithic colonization of the Japanese Islands. Needless to say, such a time depth makes any sort of correlation with early macro-families an undertaking fraught with uncertainties.

(2) *Mixing*: assuming that an Austronesian related language was spoken in the Jōmon then it may have mixed with the language(s) of the Yayoi immigrants to form Japanese. It is not at all clear under what conditions such 'mixed languages' may have come about in premodern times—or if indeed they existed at all. Maher (1996) has recently argued for a Yayoi creolization model but my own view is that there is little in the archeological record of the Yayoi period that would sup-

port such a model. I have argued that the Jômon people made only a minor contribution to Yayoi culture (and therefore presumably to Yayoi language) (Hudson 1995). Of course many Japanese archeologists believe the opposite but such beliefs are based almost exclusively on ceramic continuities and ignore the biological evidence for large-scale immigration in the Yayoi (see eg., Kanaseki 1995, this volume).

(3) *Ainu*: The biological and cultural continuities present in northern Japan suggest that the Ainu language may be derived from a language of the Jômon period (Hudson 1995). If the Austronesian elements in Japanese come from a Jômon sub-stratum then it is reasonable to expect that Ainu should be closer to Austronesian than Japanese. Towards the end of his life, leading Japanese linguist Murayama Shichirô began to seriously investigate this problem and published two books supporting an Ainu/Austronesian link (Murayama 1992, 1993). It should be noted that it is, of course, possible that there were more than one language families present in the Jômon and that an ancestral Austronesian south Jômon language became creolized to form Japanese but that non-Austronesian Ainu evolved quite separately in the north. Either way it would be most helpful to have some sort of linguistic consensus on the genetic affiliations of Ainu.

Some Final Comments

Japanese and Austronesian are either genetically related or they are not. If not, then any shared linguistic elements must be attributed to borrowing. If they are related then that relationship must have had historical consequences in terms of prehistoric population movements. It has been argued in this paper that the archeology provides no support for such movements. The historical context of any possible borrowing between Japanese and Austronesian also remains unclear. This does not mean that I have 'disproved' the theory of a link between Japanese and Austronesian; that theory will always be based on linguistic evidence alone. I do believe, however, that the inter-disciplinary approach used here does have some relevance. Take the hypothetical example that certain linguists have proposed links between an Amazonian language and an Aboriginal language of eastern Australia. In such a case, the extent to which archeologists would be willing to reconsider the prehistory of the Pacific basin would be proportional to the level of confidence amongst linguists that the languages concerned really are related. I believe the same is true for Japanese and Austronesian.

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